

Form PTO-1449

U.S. Department of Commerce
Patent and Trademark OfficeAtty. Docket N .
57906-A/JPW/SHS/GJC Serial N .
09/464,902Applicants
William C. Olson, et al.Filing Date
December 16, 1999 GroupO I P E
JUN 22 2000INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

A	Allaway, G.P., K.L. Davis-Bruno, B.A. Beaudry, E.B. Garcia, E.L. Wong, A.M. Ryder, K.W. Hasel, M.C. Gaudin, R.A. Koup, J.S. McDougal and P.J. Madden. 1995 Expression and characterization of CD4-IgG2, a novel heterotetramer that neutralizes primary HIV type 1 isolates. AIDS Res Hum Retroviruses 11:533-539. (Exhibit 1);
B	Allaway, G.P., A.M. Ryder, G.A. Beaudry and P.J. Madden 1993. Synergistic inhibition of HIV-1 envelope-mediated cell fusion by CD4-based molecules in combination with antibodies to gp120 or gp41. AIDS Res. Hum. Retroviruses 9:581-587 (Exhibit 2);
C	Amara, A., S.L. Gall, O. Schwartz, J. Salamero, M. Montes, P. Loetscher, M. Baggolini, J.L. Virelizier and F. Arenzana-Seisdedos. 1997. HIV coreceptor downregulation as antiviral principle: SDF-1α-dependent internalization of the chemokine receptor CXCR4 contributes to inhibition of HIV replication. J. Exp. Med. 186:139-146 (Exhibit 3);
D	Berger, E.A. 1997. HIV entry and tropism: the chemokine receptor connection. AIDS 11 (suppl A): S3-S16 (Exhibit 4);
E	Bieniasz, P.D., R.A. Fridell, I. Aramori, S.S.G. Ferguson, M.C. Caron and B.R. Cullen. 1997. HIV-1 induced cell fusion is mediated by multiple regions within both the viral envelope and the CCR5 co-receptor. EMBO 16:2599-2609 (Exhibit 5);
F	Brelot, A., N. Heveker, O. Pleskoff, N. Sol and M. Alizon. 1997. Role of the first and third extracellular domains of CXCR4 in human immunodeficiency virus coreceptor activity. J. Virol. 71:4744-4751 (Exhibit 6);
G	Chan, D.C. and P.S. Kim. 1998. HIV entry and its inhibition. Cell 93:681-684 (Exhibit 7);
H	Connor, R.I. K.E. Sheridan, D. Ceradini, S. Choe and N.R. Landau. 1997. Change in co-receptor use correlates with disease progression in HIV-1 infected individuals. J. Exp. Med. 185:621-628 (Exhibit 8);

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449		U.S. Department of Commerce Patent and Trademark Office	Atty. Docket N . 57906-A/JPW/SHS/GJC	Serial No. 09/464,902
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)		Applicants	William C. Olson, et al.	
		Filing Date	December 16, 1999	
U.S. PATENT DOCUMENTS				

		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

I	Crump, M.P., J.H. Gong, P. Loetscher, K. Rajarathnam, A. Amara, R. Arenzana-Seisdedos, J.L. Virelizier, M. Baggolini, B.D. Sykes and I. Clark-Lewis. 1997. Solution structure and basis for functional activity of stromal-cell derived factor-1; disassociation of CXCR4 activation from binding and inhibition of HIV-1. EMBO 16:6996-7007 (Exhibit 9);
J	Dalgleish, A.G., P.C.L. Beverly, P.R. Clapham, D.H. Crawford, M.F. Greaves and R.A. Weiss 1984. The CD4 (T4) antigen is an essential component of the receptor for the AIDS retrovirus Nature 312:763-766 (Exhibit 10);
K	Donzella, G.A., D. Schols, S.W. Lin, J.A. Este, K.A. Nagashima, P.J. Maddon, G.P. Allaway, T.P. Sakamar, G. Henson, E.D. Clercq and J.P. Moore. 1998 AMD3100, a small molecule inhibitor of HIV-1 entry via the CXCR4 co-receptor. Nat. Med. 4:72-77 (Exhibit 11);
L	Doranz, B.J., K. Grovit-Ferbas, M.P. Sharron, S.H. Mao, M.B. Goetz, E.S. Daar, R.W. Doms and W.A. O'Brien. 1997. A small molecule inhibitor directed against the chemokine receptor CXCR4 prevents its use as an HIV-1 co-receptor. J. Ex. Med. 186:1395-1400 (Exhibit 12);
M	Doranz, B.J., Z-H. Lu, J. Rucker, T.-Y Zhang, M. Sharron, Y.-H Cen, Z.-X. Wang, H.-H Guo, J.-G Du, M.A. Accavitti, R.W. Doms and S.C. Peiper. 1997. Two distinct CCR5 domains can mediate co-receptor usage by human immunodeficiency virus type 1. J. Virol. 71:6305-6314 (Exhibit 13);
N	Dragic, T., V. Litwin, G.P. Allaway, S.R. Martin, Y. Huanh, K.A. Nagashima, C. Cayanan, P.J. Maddon, R.A. Koup, J.P. Moore and W.A. Moore and W.A. Paxton. 1996. HIV-1 entry into CD4+ cells is mediated by the chemokine receptor CC-CKR-5. Nature 381:667-673 (Exhibit 14);
O	Hill, C.M., D. Kwon, M. Jones, C.B. Davis, S. Marmon, B.L. Daugherty, J.A. DeMartino, M.S. Springer, D. Unutmaz and D.R. Littman. 1998. The amino terminus of human CCR5 is required for its function as a receptor for diverse human and simian immunodeficiency virus envelope glycoproteins. Virology 248:257-371 (Exhibit 15);

EXAMINER	DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw Line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No. 57906-A/JPW/SHS/GJC Serial No. 09/464,902

O I P E JUN 22 2000
INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)Applicants
William C. Olson, et al.

Filing Date December 16, 1999 Group

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

P	Kwong, P.D., R. Wyatt, J. Robinson, R.W. Sweet, J. Sodroski and W.A. Hendrickson. 1998. Structure of an HIV gp120 envelope glycoprotein in complex with the CD4 receptor and a neutralizing human antibody. Nature 393:648-659 (Exhibit 16);
Q	Laal, S., S. Burda, M.K. Gorny, S. Karwowska, A. Buchbinder and S. Zolla-Pazner. 1994. Synergistic neutralization of human immunodeficiency virus type 1 by combinations of human monoclonal antibodies. J. Virol. 68:4001-4008 (Exhibit 17);
R	Li, A., H. Katinger, M.R. Posner, L. Cavacini, S. Zolla-Pazner, M.K. Gorny, J. Sodroski, T.C. Chou, T.W. Baba and R.M. Ruprecht. 1998. Synergistic neutralization of simian-human immunodeficiency virus SHIV-vpu+ by triple and quadruple combinations of human monoclonal antibodies and high-titer antihuman immunodeficiency virus type 1 immunoglobulins. J. Virol. 72:3235-3240 (Exhibit 18);
S	Mack, M., B. Luckow, P.J. Nelson, J. Cihak, G. Simmons, P.R. Clapham, N. Signoret, M. Marsh, M. Stangassinger, F. Borlat, T.N.C. Wells, D. Schlendorff and A.E.I. Proudfoot. 1998. Aminoxyptane-RANTES induces CCR5 internalization but inhibits recycling: a novel inhibitory mechanisms of HIV infectivity. J. Ex. Med. 187:1215-1224 (Exhibit 19);
T	McKnight, A., D. Wilkinson, G. Simmons, S. Talbot, L. Picard, M. Ahuja, M. Marsh, J.A. Hoxie and P.R. Clapham. 1997. Inhibition of human immunodeficiency virus fusion by a monoclonal antibody to a co-receptor (CXCR3) is both cell type and virus strain dependent. J. Virol. 71:1692-1696 (Exhibit 20);
U	Strizki, J.M., J Davis-Turner, R.G. Collman, J. Hoxie and F. Gonzalez-Scarano. 1997. A monoclonal antibody (12G5) directed against CXCR4 inhibits infection with the dual-tropic human immunodeficiency virus type 1 isolate HIV-1 89.6 but not the T-tropic isolate HIV-1 HxB. J. Virol. 71:5678-5683 (Exhibit 21);
V	Trkola, A., T. Dragic, J. Arthos, J. Binley, W.C. Olson, G.P. Allaway, C. Cheng-Mayer, J. Robinson, P.J. Madden and J.P. Moore. 1996. CD4-dependent, antibody sensitive interactions between HIV-1 and its co-receptor CCR-5. Nature 384:184-187 (Exhibit 22);

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449

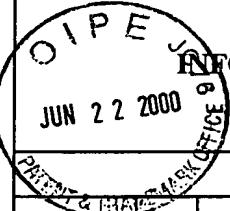
**U.S. Department of Commerce
Patent and Trademark Office**

Atty. Docket No. 57906-A/JPW/SHS/GJC	Serial No. 09/464,902
---	--------------------------

Applicants William C. Olson, et al.

Filing Date December 16, 1999	Group
---	-------

**INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)**



U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

W	Vijh-Warrier, S., A. Pinter, W.J. Honnen and S.A. Tilley. 1996. Synergistic neutralization of human immunodeficiency virus type 1 by a chimpanzee monoclonal antibody against the V2 domain of gp120 in combination with monoclonal antibodies against the V3 loop and the CD4-binding site. <i>J. Virol.</i> 70:4466-4473 (Exhibit 23);
X	Wu, L., G. LaRosa, N. Kassam, C.J. Gordon, H. Heath, N. Ruffing, H. Chen, J. Humblia, M. Samson, M. Parmentier, J.P. Moore and C.R. Mackay. 1997. Interaction of chemokine receptor CCR5 with its ligands: multiple domains for HIV-1 gp120 binding and a single domain for chemokine binding. <i>J. Exp. Med.</i> 186:1373-1381 (Exhibit 24);
Y	Ylisastigui, L., J.J. Vizzanova, E. Drakopoulou, P. Paindavoine, C.F. Calvo, M. Parmentier, J.C. Gluckman, C. Vita and A. Benjoud. 1998. Synthetic full length and truncated RANTES inhibit HIV-1 infection of primary macrophages. <i>AIDS</i> 12:977-984 (Exhibit 25).
Z	Tilley, S. A., W.J. Honnen, S. Warrier, M.E. Rach, T.C. Chou, M. Girard, E. Muchmore, M. Hilgartner, D.D. Ho, M.S.C. Fung, and A. Pinter. 1991. Potent Neutralization of HIV-1 by Human and Chimpanzee Monoclonal Antibodies Directed Against Three Distinct Epitope Clusters of gp120. <i>Sixieme Colloque Des Cent Gardes.</i> 211-216 (Exhibit 26)
AA	Tilley, S.A., W.J. Honnen, M.E. Rach, T.C. Chou, and A. Pinter. 1992. Synergistic Neutralization of HIV-1 by Human Monoclonal Antibodies Against the V3 Loop and the CD4-Binding Site of gp120. <i>AIDS Research and Human Retroviruses</i> 80:4: 461-467 (Exhibit 27)
AB	Choe, H., M. Farzan, Y. Sun, N. Sullivan, B. Rollins, P.D. Ponath, L. Wu, C.R. Mackay, G. LaRosa, W. Newman, N. Gerard, C. Gerard, and J. Sodroski. The Beta-Chemokine Receptors CCR3 and CCR5 Facilitate Infection by Primary HIV-1 Isolates. <i>Cell</i> 85: 1135-1148 (Exhibit 28)

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No. 57906-A/JPW/SHS/GJC Serial No. 09/464,902

Applicants
William C. Olson, et al.

Filing Date December 16, 1999 Group

INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)

JUN 22 2000

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AC	Doranz, B.J., J. Rucker, Y. Yi, R. Smyth, M. Samson, S.C. Peiper, M. Parmentier, R.G. Collman, and R.W. Doms. A Dual-Tropic Primary HIV-1 Isolate That Uses Fusin and Beta-Chemokine Receptors CKR-5, CKR-3, and CKR-2b as Fusion Cofactors. Cell 85: 1149-1158 (Exhibit 29)
AD	Deng, H., R. Liu, W. Ellmeier, S. Choe, D. Unutmaz, M. Burkhardt, P.D. Marzio, S. Marmon, R.E. Sutton, C.M. Hill, C.B. Davis, S.C. Peiper, T.J. Schall, D.R. Littman, and N.R. Landau, Identification of a Major Co-Receptor for Primary Isolates of HIV-1. Nature 381: 661-666 (Exhibit 30)
AE	Feng, Y., C.C. Broder, P.E. Kennedy, E.A. Berger. HIV-1 Entry Cofactor: Functional cDNA Cloning of a Seven-Transmembrane, G Protein-Coupled Receptor. Science 272: 872-877 (Exhibit 31)

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.